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EXAMINER	
SODERQUIST, ARLEN	
ART UNIT	**PAPER NUMBER**
1743	

DATE MAILED: 04/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/755,951	VESTAL, MARVIN L.	
	Examiner	Art Unit	
	Arlen Soderquist	1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 March 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *75-87,90-95 and 97* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *75-87,90-95 and 97* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. Applicant is reminded of the continuing obligation under 37 CFR 1.178(b), to timely apprise the Office of any prior or concurrent proceeding in which Patent No. 5,498,545 or Reissued Patent RE37,485 is or was involved. These proceedings would include interferences, reissues, reexaminations, and litigation.

Applicant is further reminded of the continuing obligation under 37 CFR 1.56, to timely apprise the Office of any information which is material to patentability of the claims under consideration in this reissue application.

These obligations rest with each individual associated with the filing and prosecution of this application for reissue. See also MPEP §§ 1404, 1442.01 and 1442.04.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 75-81, 84-87, 90-95 and 97 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beavis (US 5,288,644) in view of Wilhelmi (*Safeguards Tech., Proc. Symp.* or KFK-2319, EUR05504), Weinberger and Duffin. In the figures and associated discussion Beavis teaches a mass spectrometry instrument (30) and sample preparation device for determining the sequences of DNA molecules. Column 3, lines 19-23 are reproduced below with emphasis added by examiner.

> "It is a further objective of the present invention to provide an instrument and method which are relatively simple to operate, relatively low in cost, and ***which may be automated*** to sequence thousands of gene bases per hour."

This section teaches that automation is an objective of the invention that will allow the sequencing of thousands of gene bases per hour of analysis. This automation is not limited to any specific types by the language in this section. The mass spectrometry instrument includes an automated probe assembly (brief description of figure 2) for introducing samples into the mass spectrometer. The automated sample preparation device (column 4, lines 42-43) is shown in figure 1. It includes an autosampler (10), matrix container (12) and sample containers (14) under the control of a computer (22). The sample preparation device and mass spectrometry instrument are used to prepare and analyze a plurality of samples by matrix-assisted desorption/ionization. In preparing a sample the autosampler mixes a sample with the matrix material and spots it (18) at a specific, known location on a disk (20) or other media having a planar surface relative to a reference mark (24) on the disk (column 4, line 53 to column 5 line 24). The known location of each spot is loaded into the computer (22). After spotting, the samples (18) are dried and inserted into the mass spectrometer through a vacuum lock (column 4, lines 63-67). This vacuum lock would have some form of door to allow the insertion of the sample into the lock and subsequently into the ion source of the spectrometer. Also inherent in a vacuum lock would be the removal of ambient atmosphere in the lock during the pump down phase to prevent exposure of the sampling region to the ambient atmosphere (see column 4, line 67 to column 5, line 1). Column 5, lines 20 - 28 teach the automated rotation of the disk (20) within the spectrometer to allow each of the 120 samples on the disk to be measured. Column 5 lines 30 - 34 teach that the particular disk geometry is only exemplary and other geometries employing linear translation of the planar surface are also contemplated. Column 5 lines 36-45 are reproduced with added emphasis below.

> "The present invention preferably utilizes a laser desorption time of flight (TOF) mass spectrometer **30**, as generally illustrated in FIG. 2. The disk **20** has a planar face **19** containing a plurality of sample spots **18**, each being approximately equal to the laser beam diameter. The disk **20** is maintained at a voltage V_1 and ***may be manually inserted and removed*** from the spectrometer. Ions are formed by sequentially radiating each spot **18** on the disk **20** with a laser beam from source **32**."

This section teaches the insertion and removal of the disk ***"may"*** be manual but does not limit it to being manual. It also teaches maintaining the disk at a potential during ion formation with a laser (32). Column 6, lines 26-33 teach the attenuation of the laser output. Columns 1-2 in the

background section discuss the prior techniques and characterize them as being costly, time consuming and requiring manual intervention or complex instrumentation. In contrast to this column 4, line 63 to column 5, line 29 teach that more than 50 spectrum can be produced in an hour with minimal attention from a dedicated, trained operator. This section also incorporates by reference an earlier filed copending application (US 5,045,694 of record) in which the samples are loaded manually and less than an hour is required to obtain sequence information on a single segment of DNA. Beavis clearly teaches automation of two parts of the analysis process – the sample preparation and a probe assembly for introducing the samples into the mass spectrometer – and the benefits thereof. Furthermore, Beavis is clearly looking to automation as a way of increasing the number of samples processed and reducing the amount of intervention by a trained operator. Beavis also does not limit the insertion and removal of the sample disk into the mass spectrometer to manual insertion and removal. Column 4, lines 9-30 of the instant specification teaches various ways of providing the samples at fixed locations including just knowing the coordinates of the location which Beavis clearly teaches. Beavis fails to teach maintaining a second sample containing disk under vacuum conditions while the first is being struck with laser pulses, a curing chamber, identification means in the support, one or more samples in the vacuum lock during processing of one sample in the spectrometer, or magnetic means on the sample tray and transports for coupling during sample tray movement.

In the paper Wilhelmi discusses an automatic analytical laboratory for mass-spectrometric isotopic-dilution analysis of uranium and plutonium in fuel solutions. The individual basic processes, i.e., sampling, spiking, and chemical processing of the samples, mass-spectrometric measurement and calculation of the analytical data, are automated independently. Experience obtained over 4 years of manual processing and measurement of several hundreds of samples caused the conversion to automation. The different process steps required for sampling, spiking, and chemical processing of the samples are implemented by components that were combined into a unit-construction system. For the mass-spectrometric measurements commercial equipment was automated. The sample throughput of this equipment is to be increased to 48 measurements per day by a high-vacuum lock system for preheating the samples. Further commercial equipment is used to calculate the results of the analyses whose program was being developed. The concept and designing of the facility and the present state of

development were reported. Relevant to the instant claims are figure 3 and its associated discussion. In the figure three separate lock chambers are shown. In the left chamber sample degassing occurs. The left chamber is connected to the middle chamber such that during the degassing, the two chambers are isolated from each other. After degassing the two chambers are brought into fluid communication and the sample cassette with its plurality of samples is automatically transferred into the middle chamber. This chamber is directly connected to the ion source and figure 3 appears to show that there is fluid communication during the insertion of a sample into the ion source. After the analysis is finished the sample is returned to the cassette and the next sample is analyzed. When the samples in a cassette have been analyzed the cassette is transferred to the right chamber in a manner similar to the first transfer. The first section of page 171 discusses the advantages of the automation including saving time and improving reproducibility.

In the report Wilhelmi (see the translation) describes a completely automated mass spectrometer in fissile material control. The demand for higher accuracy and a shorter delay in the analysis together with better data security needed in safeguards, led to the automation of a mass spectrometer. Starting with the continuous feed of samples via a high vacuum lock and including the subsequent heating, focusing and scanning of the samples as well as the final evaluation of the data (taking α-spectrometry and the weights required for the isotropic dilution technique into account), the mass spectrometric procedure was completely automated. A serial CH-5 instrument of VARIAN MAT was modified to be controlled/operated by a VARIAN 620/I computer. A newly developed 3-chamber high vacuum lock was attached to this system and the final evaluation was made with an IBM 370. This was described in sections 2.3, 2.31, 4, 4.14.2, 5, 5.1 and figures 8-13. The system was used for the isotope analysis of U, Pu and Nd. Major breakdowns of the hardware did not occur, however, the computer programs had to be steadily improved according to the changing characteristics of the samples. Compared to manual operation, the automated technique is superior for the reasons given in section 5.4.

In the figures and associated discussion Weinberger teaches a laser desorption mass spectrometer and sample preparation device. Of particular interest to the instant application are figures 6, 6a and 14 teaching a drying chamber (320) to assist in drying the samples and means for storing and inserting multiple sample containing probes in a vacuum chamber connected to a

vacuum chamber for the mass spectrometer ion source. In the vacuum chamber (28) a sample cassette (152) containing a plurality of sample probes (30,154) which has a magnetic or mechanical coupler (162) that interacts with a similar coupler (160) on the transporter device (159).

In the paper Duffin teaches an automated sample transport system for chromatography/secondary ion mass spectrometry. The design of a new sample cell for a large-scale secondary ion mass spectrometer is described. Unique to this new source chamber is the incorporation of large piezoelectric translator stages capable of 20 cm × 20 cm movement with high resolution. In addition, the source chamber is designed so that interchangeable detector assemblies can be fitted to the chamber. The paragraph bridging pages 1072-1073 discusses previous sample manipulation stages using mechanical linkages from external drives or vacuum compatible stepper motors and how the piezoelectric translators do not have the disadvantages of heat control or loss of resolution due to gears. This translation stage allows controlled movement of the sample supports with a position reproducibility of 1μ.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a vacuum lock connection as taught by Wilhelmi into the Beavis device and method because as shown by Wilhelmi it would have allowed the sample preparation and analysis to occur under conditions that would have provided further advantages such as time and throughput related to automation. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the sample cassette as taught by either Wilhelmi or Weinberger and a transporter mechanism with a magnetic coupler as taught by Weinberger into the Beavis device because one of ordinary skill in the art would have recognized that having multiple sample trays in the sample chamber would allow the instrument to operate for extended periods of time without operator interaction and would facilitate movement of the sample trays into and out of the mass spectrometer as shown by both Weinberger and Wilhelmi. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a drying chamber as taught by Weinberger into the Beavis device because one of skill in the art would have recognized that the drying chamber would increase the preparation speed by reducing the time for the samples to dry. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the movement mechanism of

Duffin into the Beavis device because of it ability to translate a sample support to position the support for vaporizing sample from multiple locations and its advantage over external drives and vacuum compatible drives as taught by Duffin.

4. Claim 82 is rejected under 35 U.S.C. § 103 as being unpatentable over Beavis in view of Wilhelmi, Weinberger and Duffin as applied to claim 81 above, and further in view of Ledford. Beavis does not teach indicia at each sample location.

In the patent Ledford teaches apparatus and method for injecting samples into a mass spectrometer. Column 2, line 56 to column 3, line 31 teach that the samples are deposited on a tape or rotatable disk which may be inserted into the ionization chamber through a vacuum lock mechanism. Also taught is mixing the sample with an easily vaporizable matrix material to enhance volatilization of nonvolatile or thermolabile samples (also see column 11, lines 5-21). Optical indicia are provides to give sample identification and sample position information (column 10, lines 50-68).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include indicia as taught by Ledford at the sample positions of Beavis because of the ability to provide indexing and sample information as taught by Ledford.

5. Claim 83 is rejected under 35 U.S.C. § 103 as being unpatentable over Beavis in view of Wilhelmi, Weinberger and Duffin as applied to claim 75 above, and further in view of Bakker. Beavis does not teach a door member between the ion source chamber and the vacuum lock.

In the paper Bakker presents a direct-insertion sample-handling system for mass spectrometers. The direct-insertion lock was brazed to the side of the vacuum chamber of the mass spectrometer opposite the source. The stainless steel probe does not need an exceptionally high surface finish; machining to a fine finish followed by polishing with a linen mop is sufficient. The insertion lock is isolated from the source by a 1 inch quarter-swing butterfly valve (door). The whole assembly is made of stainless steel. Sealing is done with viton O-rings. The seals are so effective that differential pumping is no longer used. Sample introduction takes <1 minute, and at all times there is a positive control over the probe position. None of the source supplies had to be switched off during sample introduction.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the door (swinging valve) of Bakker between the vacuum lock and the ion

source chamber as taught by Bakker in the device of Beavis because of the ability to rapidly introduce samples into the ion source chamber under vacuum without switching off the ion source as taught by Bakker.

6. Applicant's arguments and the second declaration of Dr. Brown filed March 8, 2004 have been fully considered but they are not persuasive. Relative to the art rejection, applicant is correct that some of the motivation for the reference combination comes from the paragraph bridging columns 4-5 of Beavis. However, there are other sections of the Beavis patent that also provide some of the leading to motivation. In particular the background section of columns 1-2 discuss prior method of sequence analysis and teach that they are costly, time consuming and require manual intervention or complex instrumentation. This is followed by a listing of objects that include the section reproduced above from column 3, lines 19-23 in which the object is "to provide an instrument and method which are relatively simple to operate, relatively low in cost, and ***which may be automated*** to sequence thousands of gene bases per hour." Thus automation is an objective of the invention that will allow the sequencing of thousands of gene bases per hour of analysis. It should be noted that this statement is not directed to or limit the automation to any particular type of automation. The detailed description, following the statement of objectives in the patent, teaches two specific types of automation – sample preparation and sample introduction into the mass spectrometer. In the discussion, there are at least two paragraphs presenting benefits for the automation relative to time and the need for trained operator intervention or attention of the automated process. The first is the paragraph bridging columns 4-5 and the second is the paragraph that follows. In the first paragraph, Beavis teaches that the invention is preferably automated to produce 50 or more spectra in an hour without the full-time attention of a trained operator. This was compared to both the prior art techniques and the manual process that is taught in the earlier filed, copending application resulting in US Patent 5,045,694. That the insertion of the probe having sample deposited thereon was manual in the 5,045,694 patent can be seen from column 4, lines 7-8 of that patent. In the second paragraph Beavis teaches that if the sample disk contained 120 samples, "operator intervention is only required approximately once every two hours to insert a new sample disk, and less than five minutes of each two hour period is required for loading and pumpdown." This would allow a single operator to service several spectrometers. It should be noted that various forms of the

word "load" are used in Beavis are used both to place the sample on something such as the disk or an electrophoresis device (see column 1, lines 58-61 and column 4, lines 42-43, 46-48 and 58-62) and to load the sample containing disk into the mass spectrometer (see column 2, lines 55-59, column 4, line 67 to column 5, line 2 and column 5, lines 24-28). In addition to these situations, Beavis uses the words "loaded" or "load" in two places where it could refer to either or both of the above uses (see column 5 lines 5-10 and 14-18). It should be pointed out that Beavis uses other words for both of the above uses of the various forms of the word "load" and there is insufficient basis in the specification to clearly assign these two occurrences to a particular use. Applicant and Dr. Brown have apparently not considered the occurrence of "loading" at column 2, lines 55-59 which makes it clear that the samples can be loaded into the mass spectrometer. And it is for at least this reason that examiner asserts that the reasoning put forth in the declaration and the response is not correct regarding the usage of the various forms of "load".

Before going further, it should be pointed out that examiner does not find and the law does not require the motivation for the combination of references generally or the modification of specific features to be only in the Beavis reference. If that were the case, then the Beavis reference potentially would anticipate the claims. One recognized reason for motivation that is important to the instant combination is the references are solving a similar problem. It is in this context that the discussion of automation is important to the combination put forth by the examiner. In particular the Wilhelmi references are concerned with the total automation of a manual mass spectrometric analysis process in which there is sample preparation prior to the analysis for a plurality of samples.

Beavis does not provide specific teachings about the mechanism for inserting the sample disk through the vacuum lock into the ion source of the mass spectrometer. Additionally, although manual insertion and removal are mentioned, the language used does not limit the insertion and removal to be a manual function. However, the figures and specification do provide some detail that would direct one of skill in the art to the secondary references. First applicant is directed to figure 2 of the Beavis reference. It is clear that the sample disk is inside of the ion source and that the rod to which it is attached is also at least partly within the ion source. Additionally column 5, lines 19-24 of Beavis teach that the sample disk can be rotated within the ion source region of the mass spectrometer by a stepper motor that is different from

the one used when samples were deposited on the disk. Thus there has to be something that can be classified as a sample receiving stage to allow for mounting and removal of the disk on the stepper motor. The instant claims do not require any more structure than this for the sample receiving stage. This also clearly teaches that any mechanism used in the method of Beavis would need to both associate and disassociate the sample disk from the receiving stage of the stepper motor. Figure 2 also shows the disk inside of the mass spectrometer which means that the sample receiving stage is in the ions source of the mass spectrometer. It is also important to note that it is only the sample disk that is loaded rather than the complete disk stepper motor assembly. Although this does not teach that the sample disk is loaded onto a receiving stage in the ion source chamber, it clearly does not teach away from that occurring or being the preferred method of loading the sample disk. Applicant has not provided any probative evidence to support the position that the disk is attached to the stepper motor outside of the mass spectrometer while figure 2 clearly shows the stepper motor having components that extent though the mass spectrometer wall and the disk being of a size that exceeds the diameter of the rod to which it attaches. This would either require the vacuum lock to be of a design that would allow the sample disk to enter the ion source chamber and provide a seal on the smaller stepper motor rod during the analysis or require that the association and disassociation occur in the source chamber. Since Beavis fails to teach specifically how to get the disk inside of the mass spectrometer, that would have been left up to one of ordinary skill in the art. However in the paragraph bridging columns 4-5, Beavis is clearly concerned with the time of sample analysis as well as the loading and pump down time. As set forth above, it is clear that the reference to loading and pump down found in the sentence bridging the two columns is talking about loading the sample into the mass spectrometer since the first sentence of the paragraph sets the time as after the samples are deposited on the disk. In the last sentence of that paragraph Beavis touches on automation and the ability of it to reduce the time and effort of a dedicated, trained operator. In the last full paragraph of column 4, Beavis describes an automated system for sample preparation and sample loading on to the disk. Thus Beavis would direct one of skill in the art to look for automated methods of handling the sample disk during at least preparation and analysis. In this way one of ordinary skill in the art would have been directed by the teachings of Beavis to look for automated method and apparatus to handle the sample preparation and analysis in a

mass spectrometric assay. Thus one of skill in the art would have been directed by the teachings of Beavis to the Wilhelmi, Weinberger and Duffin references. In the Wilhelmi references one of skill in the art would have clearly seen the benefits of a combined, automated preparation and mass spectrometer insertion system and incorporated the teaching for those reasons. In Weinberger one of ordinary skill in the art would have seen similar things in addition to a magnetic or mechanical coupling means for the sample presentation surface. In a similar manner one of ordinary skill in the art would have recognized the advantages of the Weinberger teachings and incorporated appropriate teachings into the Beavis device. The Duffin reference clearly shows a sample receiving surface in an ion source chamber capable of automated x and y movement in which the sample is associated and disassociated with the sample receiving surface.

Relative to the vacuum lock and the pump down that occurs with loading of a sample into a mass spectrometer, applicant is directed to the applied Bakker reference which clearly shows that the pump down occurs between the time the sample enters the vacuum lock and the time that the ion source chamber is opened to the vacuum lock chamber for the sample being inserted into the ion source chamber. From this it is clear that the Beavis reference discussion the pump down cannot be used to show that the attachment and detachment of the sample disk to the stepper motor occur either inside or outside of the ion source chamber.

Relative to the combination of references and the amount of experimentation needed to combine them applicant is directed to *In re* Sneed 218 USPQ 385, 389 (Fed. Cir. 1983) and *In re* Keller 208 USPQ 871, 880 (CCPA 1981) showing that a secondary reference does not need to be physically combinable with the primary reference to render the invention under review obvious. The Courts view one of ordinary skill in the art as a person having skill rather than one without skill (See *In re Sovish*, 226 USPQ 771 (Fed. Cir. 1985). As a result, one would need to define the level of skill in the art and provide probative evidence to show that the level of skill required to combine the teachings of the references goes beyond the level of skill of one of ordinary skill in the art. Although the second declaration of Dr. Brown does attempt to set forth the minimum education level for one of ordinary skill in the art if fails to provide the probative evidence of how this education level is insufficient to combine the teachings of the applied references. For example, the declaration sets forth what Dr. Brown understands the references to describe and includes statements relative to what Dr. Brown and/or a practitioner (first declaration) or one of

ordinary skill in the art would or would not consider the teachings to cause the person of ordinary skill in the art (practitioner) to modify the Beavis reference. In response to these statements examiner would like to point out that both the Wilhelmi and Weinberger references teach that the samples are associated with (coupled to) and disassociated (separated) from the transfer rod in the process of moving them from their storage location to the ion source. Thus one of skill in the art certainly knows how to associate and disassociate the sample under a vacuum environment in a mass spectrometer. This coupled with the Beavis reference showing the sample disk located inside the ion source chamber shows that one of ordinary skill in the art has the knowledge and ability to provide means to associate and disassociate the sample disk with a sample receiving stage in a vacuum chamber such as the ion source chamber of a mass spectrometer. Furthermore the claims lack specific structure for the sample support transfer mechanism and case law relative to automation of a manual activity is clearly relevant to the instant claims. In particular see *In re Venner*, 120 USPQ 192 (CCPA 1958) (to provide a mechanical or automatic means to replace manual activity which accomplishes the same result is within the skill of a routineer in the art). If the opinions expressed are not based on probative evidence that is also presented, the opinions carry little patentable moment. Additionally in doing this one should be cognizant of the scope of the claims relative to the specific disclosure of the specification and figures. If one is basing their opinions on the specific disclosure of the specification, rather than the scope of the claims then the opinions are not commensurate in scope with the claims. In this situation the opinions have little probative value. Examiner maintains that for the reasons above the combination of Beavis in view of Wilhelmi and Weinberger do make obvious the sample support transfer mechanism as found in the claims in combination with the other elements of the claims. As such the teachings of Duffin, Ledford and Bakker are not needed for this purpose.

7. The terminal disclaimer filed on March 8 2004 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of RE 37,485 has been reviewed and is accepted. The terminal disclaimer has been recorded.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arlen Soderquist whose current telephone number is (571) 272-1265 as a result of the examiner moving to the new USPTO location. The examiner's schedule is variable between the hours of about 5:30 AM to about 5:00 PM on Monday through Thursday and alternate Fridays.

A general phone number for the organization to which this application is assigned is (571) 272-1700. The fax phone number to file official papers for this application or proceeding is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Arlen Soderquist

April 8, 2004

ARLEN SODERQUIST
PRIMARY EXAMINER